Some Info About CFLs (from energy4you.net)

How standard bulbs and CFLs work:

Compact fluorescent lights look physically different than conventional light bulbs.
This is because they go about converting electric energy into light energy in different ways.

A conventional light bulb has piece of wire inside a glass bulb.
When an electric current is applied to the wire, it gets hot and begins to glow.
As the temperature of the wire increases the brighter the light gets.
A typical light bulb will emit 15% of its energy as light, and wastes 85% of its energy as heat.

A compact fluorescent light, or CFL, uses a long sealed glass tube.
To reduce the space this long tube takes up, manufacturers ether bend the tube in a zigzag, or circular corkscrew.
The inside of this tube is coated with a fluorite coating - the tube is filled with small amount of mercury vapor.
At each end of the tube is small heating element that is used to warm the mercury into a vapor.
Since mercury is metal it is electrically conductive.
When an electric current flows through this vapor, the atoms get excited and give off ultraviolet light.
When the ultraviolet light is absorbed by the fluorite coating, this causes it to fluoresce.
This fluorite coating now is giving off visible light.
The light output is regulated by an electronic ballast built into the base of the bulb.

Compact Fluorescent Lights

1) Do not instantly produce light, so if you put them in a place where you flip them on and off quite a bit, you will shorten their life.
2) Do not like hot environments
3) Do not like wet locations
4) May cost more initially (but save you much $$$ over the life of the bulb)
5) Most can not be used with light dimmers
6) May not fit into some light fixtures (but, try the new very compact bulb!)

Finding a happy home for your CFL.

- Since Compact Fluorescent Lights have solid state electronics in them, they do not like water, or hot environments.
- They do not like light dimmers - Unless the manufacture specifically states it's compatible with light dimmers.
- Most CFLs come with a standard size screw in type electrical socket, like most standard light bulbs.
- Locations to avoid would be: a range vent hood, inside a refrigerator, or inside an enclosed light fixture with a regular light bulb.
- A recessed light fixture in an insulated ceiling is a questionable location.
- Another questionable location: Outdoors where rain can come in contact with the CFL. (But some manufactures make outdoor CFL bulbs.)
- Regarding the possibility of heat damage, just remember that CFLs do give off some heat (not nearly as much as standard bulbs). When the CFL is inside a glass enclosure were the hot air can't escape from the fixture easily, it will result in a higher temperature. If it gets too hot it will destroy the CFL electronic ballast. To avoid this use a low wattage CFL, reduce the number of CFLs inside the light fixture, or change to a different style light fixture. Or change the fixture to a fluorescent type.
- Remember that CFLs come in many shapes and sizes. So pick the right one for your application.

Prime locations.

- The first locations that should receive CFLs are lights that are used the most – this gives the quickest payback…For example: a light you leave on all night. Next would be table lamps that are generally left on during the evening hours for reading or TV viewing.

- If you have an open air light fixture that does not deliver enough light, and does not allow you to increase the wattage of the standard bulbs used in the fixture, you can replace all the bulbs with CFLs.

Some examples of different CFL's

Let's do the math.

- Remember, a CFL puts out 4X the light per watt over a standard light bulb. So, read the fixture for the maximum wattage that can be used.
- As an example: For a light fixture that uses three 40 watt bulbs, the total wattage is 120 watts.
  (40 watts) x 3 = 120 watts.

If we change the three bulbs to 15-watt CFLs, the total wattage is now 45 watts.
(15 x 3 = 45 watts). This is a savings of 75 watts.

Now, remember, CFLs put out 4 times the light per watt.
So take 45 watts x 4, and that equals 180 watts of equivalent light output.

In this example, we increased light output by 50%, and at the same time we reduced energy usage by 75 watts.

What to look for in a CFL?

1) Look for the energy star logo on the package.
   Why look for the energy star logo? This means that it has met certain testing specification:
   The bulb starts up in less than one second. The CFL has also met minimum efficiency, and longevity standards.

2) Look for the proper wattage for your application.
3) Make sure the bulb will fit in the fixture before making your purchase.
4) Make sure the bulb is the proper type for your application.

All information in grey is courtesy of “energy4you.net.”
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